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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---------------------------------------------------------------------|-------------|------------------------|---------------------|------------------|
| 10/817,324 | 04/02/2004 | Joachim Hossick-Schott | P-11708.00 | 1122 |
| 27581 | 7590 | 12/04/2006 | EXAMINER | |
| MEDTRONIC, INC. 710 MEDTRONIC PARK MINNEAPOLIS, MN 55432-9924 | | | MILLER, DANIEL H | |
| | | | ART UNIT | PAPER NUMBER |

1775

DATE MAILED: 12/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/817,324

Applicant(s)

HOSSICK-SCHOTT, JOACHIM

Examiner

Daniel Miller

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/6/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 1-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of group II claims 18-32 in the reply filed on 11/6/2006 is acknowledged.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 27-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. What is "relatively thin"? This is indefinite.

Clarification required.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to

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be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 18-23, 25-30 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 23-32 of copending Application No. 10/816,795. Although the conflicting claims are not identical, they are not patentably distinct from each other because all the limitations of the current claims fully encompass the limitations of the above-cited application. Further, it would be obvious to use a cathode in a variety of devices including an implantable medical device wherein such a device would be appropriate. The examiner has interpreted "carbon material" to be any material containing carbon including carbon nanotubes, carbides, etc.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 18-23, and 26-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Shah et al. (US 2001/0026850).

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7. Shah et al. disclose in fig. 2, a carbide cathode consisting of a titanium (paragraph 25) substrate (48a), and a layer (46A) of titanium carbide (paragraph 30) disposed on a surface portion of said substrate. Shah et al. further disclose the titanium substrate comprises a substantially flat sheet of titanium. The titanium substrate comprises an interior portion of a casing (substrate portion - element 48a) for a capacitor (see fig. 2). The capacitor further comprises: a valve metal anode (44) spaced from the cathode, a porous separator (50) material disposed between the valve metal anode and the cathode; and a liquid electrolyte (paragraph 45) in fluid communication with both the valve metal anode and the cathode. The valve metal anode comprises a tantalum anode slug (see fig. 4 - element 86 - paragraph 47).

8. Regarding claims 20-23, "even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.", (In re Thorpe, 227 USPQ 964,966). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product (In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113).

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9. The examiner has interpreted "carbon material" to be any material containing carbon including carbon nanotubes or carbides.

10. Claims 18-28 are rejected under 35 U.S.C. 102(e) as being anticipated by O'Brien (US 2005/0075708).

11. O'Brien teaches an electrode formed from a titanium substrate with a single walled carbon nanotube coating (see abstract, [0016], and claims 1 and 2).

12. The electrode is used as an implantable electrode (claim 11(e)). The nanotubes can be embedded in a further coating comprising tantalum (claim 14).

13. Regarding claims 20-23, "even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.", (In re Thorpe, 227 USPQ 964,966). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product (In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113).

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14. Because the electrode is considered biocompatible [0009] and is meant for in vitro applications it must be relatively thin for the purposes and therefore anticipates claim 27.

15. The examiner has interpreted "carbon material" to be any material containing carbon including carbon nanotubes or carbides.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shah in view of O'Brien.

18. Shah, discussed above, is silent as to the presence of carbon nanotubes carbonaceous layer.

19. O'Brien teaches an electrode formed from a titanium substrate with a single walled carbon nanotube coating (see abstract, [0016], and claims 1 and 2).

20. The electrode is used as an implantable electrode (claim 11(e)). The nanotubes can be embedded in a further coating comprising tantalum (claim 14).

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21. It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the carbon nanotubes of O'brien for the titanium carbide layer of Shah because it provides oxidation protection to the substrate.

22. Claims 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'brien in view of Shuster et al (US 4,675,254).

23. O'Brien, discussed above, is silent as to the presence of use of a separator comprising polyurethane or polypropylene dielectric material.

24. O'Brien teaches an electrode formed from a titanium substrate with a single walled carbon nanotube coating (see abstract, [0016], and claims 1 and 2).

25. The electrode is used as an implantable electrode (claim 11(e)). The nanotubes can be embedded in a further coating comprising tantalum (claim 14).

26. Shuster teaches polyurethane foam is commonly used in the art as a separator material in cathode cells (column 3 line 43-58).

27. It would have been obvious to one of ordinary skill in the art at the time of the invention to it would be consistent with cathode design known in the art.

28. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over O'brien in view of Copeland (US 7,045,247).

29. O'Brien, discussed above, is silent as to the presence of grooves on the cathode material.

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30. O'Brien teaches an electrode (cathode) formed from a titanium substrate with a single walled carbon nanotube coating (see abstract, [0016], and claims 1 and 2). The electrode is used as an implantable electrode (claim 11(e)). The nanotubes can be embedded in a further coating comprising tantalum (claim 14).

31. Copeland teaches a cathode provided with grooves in order to increase the surface area of the cathode and enhance the cells electrical properties (column 1 line 50-65).

32. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide grooves because it would be consistent with cathode design known in the art and would enhance the surface area of the cathode and hence the performance of the cell.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Miller whose telephone number is (571)272-1534. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571)272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Daniel Miller



JENNIFER MCNEIL
SUPERVISORY PATENT EXAMINER

4/27/06